4994 DANE CompactFlashCarte ang 1/08/03 11:34 Page 1

CompactFlash™

The DANE-ELEC CompactFlashTM memory card, type 1, is a non volatile memory extension.
It is generally used in digital cameras, handheld computers and laptops via a PCMCIA adaptor.
DANE-ELEC CompactFlashTM memory cards will help you transfer your data easily and quickly with no loss of data over time.

Flash Products

Main features

- Complies with the "CompactFlash Association" standard specifications, version 1.4
- Complies with ATA standard specifications (via PCMCIA adaptor) and IO/ Card mode
- Compatible with True IDE mode
- AND or NAND type Flash memory
- Capacity from 16MB to 1GB and more in the future
- Low power consumption

Reliability

MTBF (mean time between failures)	1,000,000 hours
Number of insertions	10,000 minimum
Data retention	100,000 hours
Endurance	1,000,000 cycles (read/write)
Data reliability	< 1 error/1014 bits in read mode
Preventive maintenance	none

Power supply

Voltage (dual voltage)

3.3V±5% 5V±10%

Power consumption

Standby	<200µA	<500µA
Reading	20 mA max	40 mA max
Writing	25 mA max	45 mA max

Environment

ECC operation	yes
Operating temperature	0 to 60 °C
Storage temperature	- 40 to 85 °C
Tolerated humidity	8~95 %
Tolerated vibrations	15G maximum "peak to peak"
Tolerated impacts	2KG maximum

DANE-ELEC

Physical characteristics

Size mm

Width	Thickness	Height	Weight
42.8	3.3	36.4	11.4 g max

Specifications

Designation	Capacity	number of sectors	Sectors / track	number of heads	number of cylinders
DA-CF-1024	1024	2,000,880	63	16	1,985
DA-CF-512	512	1,000,944	63	16	993
DA-CF-256	256	500,400	48	15	695
DA-CF-128	128	250,368	32	8	978
DA-CF-64	64	125,184	32	4	978
DA-CF-32	32	62,592	32	4	489
DA-CF-16	16	31,488	32	4	246

*number of tracks = number of heads X number of cylinders
** number of sectors per card = sectors/track X number of heads X number of cylinders

System performance

Start time :

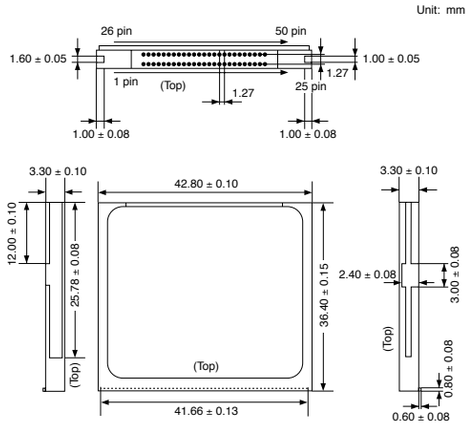
Standby/write	2.5 ms max.
Standby/read	2.0 ms max.
Initialization	50 ms typical.
	400 ms max

Data transfer rate

In write mode: from 10x to 22x
(1.5 MB/sec. to 3.15 MB/sec.)
In read mode: up to 43x

Description of pins

Number of pins 50



Pin Assignments and Pin Type

PC Card Memory Mode				PC Card I/O Mode				True IDE Mode*			
Pin	Signal Name	Pin Type	In ,Out Type	Pin	Signal Name	Pin Type	In ,Out Type	Pin	Signal Name	Pin Type	In ,Out Type
1	GND		Ground	1	GND		Ground	1	GND		Ground
2	D03	I/O	11Z,OZ3	2	D00	I/O	11Z,OZ3	2	D03	I/O	11Z,OZ3
3	D04	I/O	11Z,OZ3	3	D04	I/O	11Z,OZ3	3	D04	I/O	11Z,OZ3
4	D05	I/O	11Z,OZ3	4	D05	I/O	11Z,OZ3	4	D05	I/O	11Z,OZ3
5	D06	I/O	11Z,OZ3	5	D06	I/O	11Z,OZ3	5	D06	I/O	11Z,OZ3
6	D07	I/O	11Z,OZ3	6	D07	I/O	11Z,OZ3	6	D07	I/O	11Z,OZ3
7	-CE1	I	13U	7	-CE1	I	13U	7	-CS0	I	13Z
8	A10	I	11Z	8	A10	I	11Z	8	A10*	I	11Z
9	-OE	I	13U	9	-OE	I	13U	9	-ATA SEL	I	13U
10	A09	I	11Z	10	A09	I	11Z	10	A09*	I	11Z
11	A08	I	11Z	11	A08	I	11Z	11	A08*	I	11Z
12	A07	I	11Z	12	A07	I	11Z	12	A07*	I	11Z
13	VCC		Power	13	VCC		Power	13	VCC		Power
14	A06	I	11Z	14	A06	I	11Z	14	A06*	I	11Z
15	A05	I	11Z	15	A05	I	11Z	15	A05*	I	11Z
16	A04	I	11Z	16	A04	I	11Z	16	A04*	I	11Z
17	A03	I	11Z	17	A03	I	11Z	17	A03*	I	11Z
18	A02	I	11Z	18	A02	I	11Z	18	A02	I	11Z
19	A01	I	11Z	19	A01	I	11Z	19	A01	I	11Z
20	A00	I	11Z	20	A00	I	11Z	20	A00	I	11Z
21	D00	I/O	11Z,OZ3	21	D00	I/O	11Z,OZ3	21	D00	I/O	11Z,OZ3
22	D01	I/O	11Z,OZ3	22	D01	I/O	11Z,OZ3	22	D01	I/O	11Z,OZ3
23	D02	I/O	11Z,OZ3	23	D02	I/O	11Z,OZ3	23	D02	I/O	11Z,OZ3
24	WP	O	OT3	24	-IOIS16	O	OT3	24	-IOCS16	O	ON3
25	-CD2	O	Ground	25	-CD2	O	Ground	25	-CD2	O	Ground
26	-CD1	O	Ground	26	-CD1	O	Ground	26	-CD1	O	Ground
27	D11*	I/O	11Z,OZ3	27	D11*	I/O	11Z,OZ3	27	D11*	I/O	11Z,OZ3
28	D12*	I/O	11Z,OZ3	28	D12*	I/O	11Z,OZ3	28	D12*	I/O	11Z,OZ3
29	D13*	I/O	11Z,OZ3	29	D13*	I/O	11Z,OZ3	29	D13*	I/O	11Z,OZ3
30	D14*	I/O	11Z,OZ3	30	D14*	I/O	11Z,OZ3	30	D14*	I/O	11Z,OZ3
31	D15*	I/O	11Z,OZ3	31	D15*	I/O	11Z,OZ3	31	D15*	I/O	11Z,OZ3
32	-CE2*	I	13U	32	-CE2*	I	13U	32	-CS1*	I	11Z
33	-VS1	O	Ground	33	-VS1	O	Ground	33	-VS1	O	Ground
34	-IORD	I	13U	34	-IORD	I	13U	34	-IORD	I	13Z
35	-IOWR	I	13U	35	-IOWR	I	13U	35	-IOWR	I	13Z
36	-WE	I	13U	36	-WE	I	13U	36	-WE*	I	13U
37	RDY/-BSY	O	OT1	37	IREQ	O	OT1	37	INTRQ	O	OZ1
38	VCC		Power	38	VCC		Power	38	VCC		Power
39	-CSEL	I	12Z	39	-CSEL	I	12Z	39	-DMA RQ1	O	5/8U
40	-VS2	O	OPEN	40	-VS2	O	OPEN	40	-VS2	O	OPEN
41	RESET	I	12Z	41	RESET	I	12Z	41	-RESET	I	12Z
42	-WAIT	O	OT1	42	-WAIT	O	OT1	42	IORDY	O	ON1
43	-INPACK	O	OT1	43	-INPACK	O	OT1	43	-INPACK	O	OZ1
44	-REG	I	13U	44	-REG	I	13U	44	-REG*	I	13U
45	BVD2	I/O	11U,OT1	45	-SPKR	I/O	11U,OT1	45	-DASP	I/O	11U,ON1
46	BVD1	I/O	11U,OT1	46	-STSCHG	I/O	11U,OT1	46	-PDIAG	I/O	11U,ON1
47	D08*	I/O	11Z,OZ3	47	D08*	I/O	11Z,OZ3	47	D08*	I/O	11Z,OZ3
48	D09*	I/O	11Z,OZ3	48	D09*	I/O	11Z,OZ3	48	D09*	I/O	11Z,OZ3
49	D10*	I/O	11Z,OZ3	49	D10*	I/O	11Z,OZ3	49	D10*	I/O	11Z,OZ3
50	GND		Ground	50	GND		Ground	50	GND		Ground

Flash Products

www.dane-elec.com

DANE-ELEC

Dane-Elec S.A.
159, Avenue Gallieni
B.P. 33
93171 Bagnolet Cedex
FRANCE
Tel: (33) 1 49 72 81 81
Fax: (33) 1 49 72 81 99

Dane-Elec Corp.
15770 Laguna
Canyon Road, #100
Irvine, CA 92618
Phone: (888) 451-3263
Phone: (949) 727-9093
Fax: (949) 727-9083

Dane-Elec DK ApS
Bernhard bangs alle 39
2000 Frederiksberg
DANEMARK
Tel: (45) 70 22 40 50
Fax: (45) 70 22 40 51

Dane-Elec GmbH
Dachauerstr.37/
Stiglmaierplatz
80335 München
GERMANY
Tel: (49) 89 54 55 81 24
Fax: (49) 89 54 55 83 33

Dane-Elec bv
Vlierbaan 34
2908 LR Capelle
a/d IJssel
THE NETHERLANDS
Tel: (31) 10 451 22 55
Fax: (31) 10 451 12 38

Dane-Elec S.A./N.V.
Rue F.J. Navezstraat 91/93
2e etage/2 verdieping
Bruxelles 1030 Brussel
BELGIUM
Tel: (32) 2 216 71 27
Fax: (32) 2 216 68 71

Dane-Elec Limited
Unit A, Oakcroft Business Centre
Oakcroft Road - Chessington
Surrey KT9 1 RH
UNITED KINGDOM
Tel: (44) 0845 226 2100
Fax: (44) 0845 226 2129

©Copyright 2001 DANE-ELEC. Toutes les autres marques citées et logos sont déposés par leurs propriétaires respectifs.

Imp. BUROPRIM, Paris - 01 48 97 83 00 - 07/2003 - 4994